	Gas on Gas	Air on Air	Gas on Waste Gas	Air on Waste Gas
Valve resistances :				
Q= volume flowing	5m³ 22	8m³ 51	5 m³ 19	7 m³58
$t°$ = average	500°	50°	750°	550°
1 -l-at = gas factor	2 825	1 1825	2 7525	2 0185
$Q_t = Q_0(1+aQ =$	15 m³	10 m³	19 m³	22 m³
Valve size in inches	54 in	66 in	54 in	66 in
= valve area	1m² 48	2m² 21	1 m²48	2 m²21
v_t — velocity through	10m	4m 56	13 m	10 m
$h = z+2g =$	5 m	1 m	8 m 83	5 m
A_0 = specific weight gases	1 125	1 293	1 32	1 32
Ai = A_0-5-(l+aO=kg	0.397	1.093	0.352	0.437
As the gases make a 180° passing through the velocity must be twice; therefors, the required will be:				
5=2/iA_0 = kgper m²	4 kg	2 kg	6 kg	4 kg

Where changes of direction of flow occur, there is a loss of pressure, or, more exactly, additional pressure is required to impress the necessary velocity in the new direction of flow. In addition, where the gases flow from a larger passage into a smaller, their velocity of flow increases and additional pressure must be provided to impress this change in velocity upon the gases. The pressures necessary for this purpose must be approximated in the following manner: